# **Evolving Role of Risk Managers**

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#### Today's Agenda

- The Growing Importance of ERM
- The Role of a CRO/Risk Manager
- The Evolving Expectations
- Structure of Program
- Roadblocks and Solutions to Advancing the Program
- Tips and Tools
- Discussion

# Growing Importance of ERM

#### **Organizational Silos**

 Traditional use of departmental lines to segregate duties and enhance overall control has allowed organizations to build expertise, define roles more clearly and aid in recruitment/development

- While this works well for business as usual efforts, this structure has shown its limitations when tackling recent challenges
- Traditional departmental lines contribute to limited horizontal knowledge, a lack of an enterprise-wide awareness of systems and processes and a gap in risk management disciplines

#### Organizational Alignment

 Board of directors is responsible for setting vision and direction, as well as risk oversight of the credit union's activities

- Management establishes strategy, business plan and risk appetite
- The board approves the risk appetite and authorizes management to establish risk policies and limits

Alignment is key and often the reason for failed execution

## **Organizational Performance**

ERM Component	Oversight Activities
Governance & Culture	<ul> <li>Assess appropriateness of strategy, alignment to mission/vision and risk inherent in that strategy</li> <li>Define board governance role and structure</li> <li>Oversee evaluations of culture and ensure gaps are remediated</li> <li>Promote risk-aware mindset that aligns the maturity of the entity with its culture</li> </ul>
Strategy and Objective Setting	<ul> <li>Set expectations for integrating ERM into the strategic management processes (planning, capital allocation, etc.)</li> <li>Discuss and understand risk appetite</li> <li>Understand changes that may impact strategy and linkages to new, emerging or manifesting risks</li> </ul>
Performance	<ul> <li>Review strategy and assumptions against portfolio view of risk</li> <li>Set expectations for risk reporting</li> <li>Understand how management identifies and communicates most severe risks and impact of such risks</li> </ul>
Review & Revision	<ul> <li>Ask management about risk manifesting in actual performance</li> <li>Ask management about ERM process and challenges management to demonstrate suitability of such</li> </ul>
Information, Communication & Reporting	<ul> <li>Identify information, data and formats required to satisfy board oversight role</li> <li>Access internal and external information and insights conducive to effective risk oversight</li> <li>Obtain data from internal / external audit and other parties regarding management perceptions and assumptions</li> </ul>

#### <u>Driving Real \$ Value</u>

 \$1.3M redundant risk and compliance expenses (per \$1B)

\$2.4M Opportunity Cost (per \$1B)





#### **Risk Pressures from Covid-19 Crisis**

- Revised compliance standards, procedures and policies
- HR issues
- Info and cyber security
- BCP and crisis management
- Third-party management
- Liquidity
- Lending pressures
- Capital adequacy



#### **Benefit to Organization of a CRO**

- Better able to understand relationships between risks across business units
- Enable organizations to improve risk/reward decisions
- Increased ability to enforce risk-related accountability to business owners
- Improved risk culture across the organization
- More capable of taking increased level of risk due to better risk management practices
- Reduction in surprises!

# Role of a CRO/Risk Manager

### Chief Risk Officer (Basel Committee on Banking Supervision)

- ... should have an independent senior executive with distinct responsibility for the risk management function and the institution's comprehensive risk management framework across the entire organization. This executive is commonly referred to as the chief risk officer (CRO)... Whatever the title, at least in large banks, the *role of the CRO should be distinct from other executive functions and business line responsibilities, and there generally should be no "dual hatting"* (ie the chief operating officer, CFO or other senior management should not also serve as the CRO).
- ...the independence of the CRO is paramount. While the CRO may report to the CEO or other senior management, the CRO should also report and have direct access to the board and its risk committee without impediment.
- CRO should have *sufficient stature*, *authority and seniority* within the organization. This will typically be reflected in the *ability of the CRO to influence decisions* that affect the bank's exposure to risk.

#### **Risk Management Expectations**

- Influence and facilitate evolution of ERM program
- Guide organization's response to regulatory requirements
- Inform board (leadership) of significant risk issues
- Able to sustain continuity of business (BCP/DR)
- Present integrated picture of risk across organization
- Identify and monitor emerging risk
- Effectively run Risk Management Committee
- Extend risk principles into business strategy



#### **Required Skills of CRO**

- Strong business acumen and broad-based business skills
- Risk and project management skills
- Analytical capabilites
- Ability to grasp strategy, governance, compliance, performance and other systems and processes
- Understanding of correlations and interdependencies across business risks and risk types



# **Evolving Expectations**

#### **Tomorrow's Risk Leader**

- Helps board set and monitor risk appetite in line with business model and acts as wise counsel and effective challenge to CEO, board and business as a whole
- Aligns business with balanced risk/reward approach for effective business decisions



- Creates vision and purpose for the risk function; inspires excellence across the organization to create credibility and add value
- Creates and drives an enterprise-wide risk function that balances framework, policy and process with forwardthinking capability
- Constantly considers future challenges and looks for ways to "future proof" the risk function

- Responsible for establishing and pushing risk culture across organization
- •Understands the present status of risk culture and drive a winning strategy to a mature culture that is appropriate for the business
- Create an open culture where curiosity and ongoing learning is expected



- Creates and maintains a pragmatic, business-focused framework (value add)
- Considers internal and external factors; able to continually improve; adapt and evolve
- Creates a risk function that can effectively partner with the business, enabling it to take ownership of risk with the risk function providing guidance

### **Evolving Priorities**

- Alignment or oversight of risk, compliance, BCP and audit
- Quantification
- Extend risk principles into business strategy
- Governance Credible challenge at Board level
- Crisis management
- Able to sustain continuity of business (BCP/DR)
- Risk appetite
- Inclusion of ALCO and info-security/cyber-security
- Stress testing and scenario analysis
- Capital adequacy
- Centralized management of operational and compliance risk assessments

# **Structure of Program**

# RISK MANAGEMENT FRAMEWORK

**ERM** 

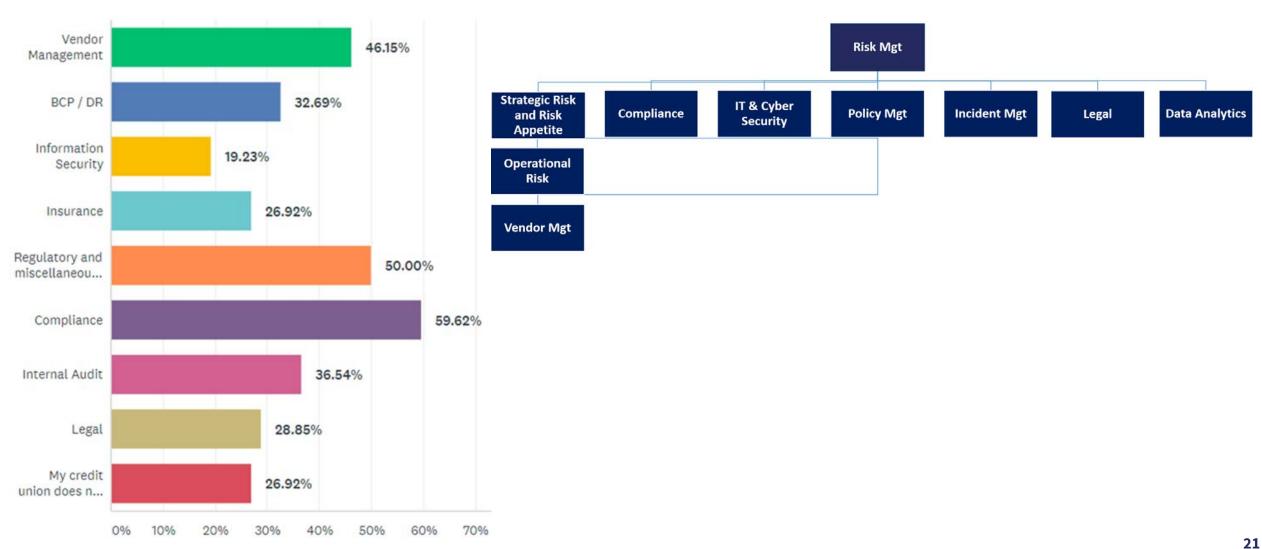
Functional
Area Risk
Assessments

Process /Product/
Project Risk
Assessments

Regulatory Risk Assessments

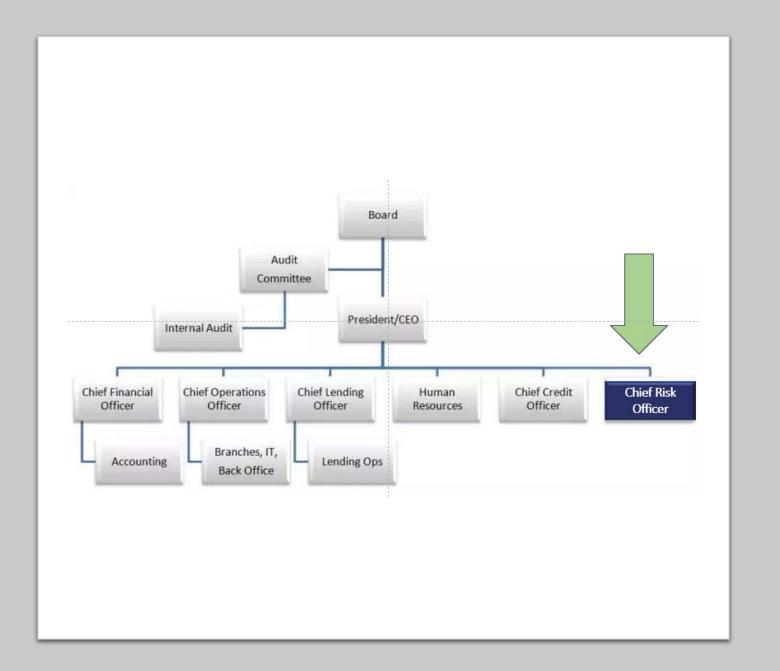
Policy Management

## Functional Responsibilities



# **Reporting Structures**

- Who does the CRO report to?
  - It doesn't really matter so long as they have access to...
  - CROs are more often direct reports to the BOD – 52% of institutions in 2016, up from 32% in 2002 (Source: Global Risk Management Survey – 2018)
  - 77% of institutions report the CRO is member of the executive management committee, an increase from 58% in 2010 (Source: Global Risk Management Survey 2018)



## Roadblocks and Solutions

#### **Program Challenges**

Properly accounting for the people side of ERM is the ultimate deciding factor between success and failure.

- Tone from the top
- Direct access to the CEO and board
- Organizational view of CRO as enabler vs compliance-heavy department of NO
- Inclusion (committees, meetings, product development)
- Risk ownership at business level
- Sufficiency of resources to execute
- Access to information (financial, compliance, audit/exam, strategic, etc.)
- Stuck in the detail
- Managing risks posed by 'outsiders' (i.e., partners, vendors, merged entities, etc)

#### **Lessons from current CROs**

- What has the role of CRO done for you?
  - Empowered to leverage broad-based skills for organizational good; propelled to executive level;
     provided a platform to help drive change; allowed to be included in lineage for CEO succession
- What has most contributed to your success as CRO?
  - Onboarded at the same time ERM was being implemented; Board buy-in and CEO confidence;
     curiosity and willingness to ask lots of questions
- How have you been able to drive change through your role as CRO?
  - Show value of risk/return decision making; encourage folks to take more risks after assessing residual risk; understands business model and constantly strives to drive decisions parallel to that
- What would you recommend to a person aspiring to the position of CRO?
  - Ask lots of questions; avoid being viewed as "Department of NO"; engage with business areas –
    understand key goals and challenges, key vendors and be able to offer advice (without overstepping);
    ensure you have a goal of win-win (folks can see through self interests)

# Tips and Tools

#### Resources

- NC State ERM Initiative: <a href="https://erm.ncsu.edu/">https://erm.ncsu.edu/</a>
- COSO: <a href="https://www.coso.org/Pages/erm-integratedframework.aspx">https://www.coso.org/Pages/erm-integratedframework.aspx</a>
- ISO 31000: <a href="https://www.iso.org/iso-31000-risk-management.html">https://www.iso.org/iso-31000-risk-management.html</a>
- RIMS: Strategic and Enterprise Risk Center: <a href="https://www.rims.org/resources/ERM/Pages/default.aspx">https://www.rims.org/resources/ERM/Pages/default.aspx</a>
- Institute of Risk Management: <a href="https://www.theirm.org/knowledge-and-resources.aspx">https://www.theirm.org/knowledge-and-resources.aspx</a>
- CUNA ERM Certification School: <a href="https://www.cuna.org/ermcs/">https://www.cuna.org/ermcs/</a>

# **Assessing Your ERM Program**

#### Enterprise Risk Management ROCHDALE **Maturity Model**



Limited		
Risk activities are ad hoc with no organizational risk objectives or tolerances defined.		
Limited risk experience		
Risk responses are reactionary		
No central risk function		
No risk policy		
Success is based on individual employee responses to risks		

	Fragmented
	Risk functions are handled disparately across the organization by individual business units. Risk
Description:	factors are limited to business continuity, information security, financial losses, and compliance
	within business silos.
	Risk expertise is limited predominately to BCP, ALM, Information Security and Compliance
	Risk communications are shared only within individual areas
,	Risk management is reactionary
	Risk management responses are procedural in nature
	Limited risk responses testing

Comprehensive		
Description:	Risk is evaluated organization-wide and the organization attempts to assess all types of risks. The organization has limited integration of risk management with strategic and business decision making. Risk evaluation may be limited to qualitative measures.	
Key Elements:	Risk function has been established	
	Organizational understanding of risk management	
	Criteria for measuring likelihood and impact are established	
	Risk tolerances have been established for significant risks	
	Comprehensive collection and communication of organizational risks	
	Ongoing risk priority plans are developed and managed	
	Risks are internal in nature with limited predictability	
	Risks are measured in qualitative terms	
	Annual assessment of risk environment is performed	
	Risk management process, methods and controls are tested	

	Integrated
Description:	Risk management practices are tightly integrated with strategic and business decision making.
	Risks are aggregated by risk type.
	Part of strategic planning framework
	Integration with traditional risk management activities
	Balanced qualitative and quantitative risk measures
	Risk tolerance is formulated and managed as part of the organization's goals
	Strong risk management culture organizationally
V	Strong board and staff understanding
Key Elements:	Risk measures are calculated and aggregated across the organization
	Risk profile is communicated organizationally
	Methodology for evaluating inherent and residual risk is present
	Risk program is forward looking
	Predictive indicators and organizational influencers have been established
	Continuous assessment methodology has been established

Continuous assessment methodology has been established				
	Optimized			
Description:	Risk management is utilized for predictive modeling and value creation through opportunity			
•	exploitation. Risks are well defined and quantitative, and risk management is institutionalized.			
Key Elements:	ERM value is quantified and measured in both strategic benefits and bottom-line dollars			
	Risk management expertise and organizational linkage has been institutionalized			
	Strong risk management benchmarking and best practices have been established			
	Integrated risk management application has been implemented			
	Capital allocation models have been developed and installed to maximize risk-adjusted			
	returns			

## **Assessing Your ERM Program**

Program Criteria	Maturity [1=low; 10=high]	Comments [strengths; weaknesses]	Improvement Actions	ROCHDALE
overnance and Culture				◆PARAGON
edicated resources				
RM expertise				
rganization commitment/culture/senior				
nanagement support				
rganizational understanding				
dequacy of ERM Policy				
efined roles, responsibilities and training				
epth and breadth of organization involvement				
Total:				
trategy and Objective-Setting				
lisk appetite and tolerance definition				
inkages between risk and strategy processes				
orward-looking use in making decisions				
Total:				
erformance				
Defined risk identification methodology				
onsistent application				
tandardized, quantitative measurement scales				
ree flow of information				
evel of risk identification and mitigation				
ectivity				
Occumentation/tracking				
roject risk assessments				
Oversight of other miscellaneous risk				
Total:				
leview and Revision				
dentification of changing risk levels			_	
Determination of factors driving risk changes				
Quality of risk management committee (RMCO) liscussions				
Quality of Board discussions				
inkages between ERM and internal audit				
Total:				
nformation, Communication and Reporting				
RM reporting				
MCO reporting				
oard reporting				
egree of automation and leveraging of				
nformation from other sources				
Total:				
verall Program Maturity				
Overall Total:				

# Discussion

# Other Ideas and Discussion

- What did I miss?
- What questions do you have?
- Other areas to explore as a group?











#### Management

**Enterprise Risk Management** Vendor Management **Risk Appetite** 

#### apogee iQ™

**Enterprise Risk Management** Vendor Management **Document Manager** 

#### Consulting

Strategic Planning Succession Planning **Board Evaluations** 

#### Support

Compliance Support **Lending Support** Merger Support

Improving institutional intelligence through the alignment of strategy, process, information and technology to deliver a holistic understanding of risk in pursuit of achieving organizational goals.

ROCHDALEPARAGON.COM 800.424.4951

APOGEEIQ.COM

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# Tips and Tools Packet

Provided by



#### Resources

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- CUNA ERM Certification School: <a href="https://www.cuna.org/ermcs/">https://www.cuna.org/ermcs/</a>

#### COSO

- COSO Committee of Sponsoring Organizations of the Treadway Commission
- Integrated Framework for Enterprise Risk Management was released in 2004, and has continued to release supplementary materials for the Integrated Framework since that time (its latest as of June 2017)
- COSO ERM Framework Update and Executive Summary:

https://www.coso.org



#### **COSO Framework**

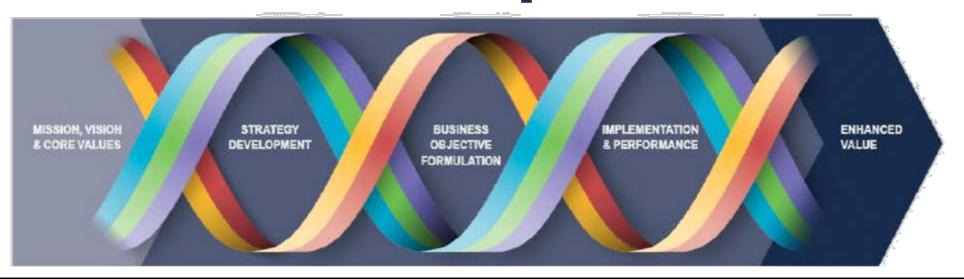
- Since the original COSO for ERM was released, complexity of risks have changed, new risks have emerged and both boards and executives have enhanced their oversight of ERM and are demanding enhanced risk reporting
- The update:
  - addresses evolution of ERM and the need for organizations to enhance their risk management processes to meet the evolving business environment; and
  - attempts to provide greater clarity into the links between strategy, risk and performance

## **COSO Framework**

Enterprise Risk Management is "... the culture, capabilities, and practices that organizations integrate with strategy-setting and apply when they carry out that strategy, with a purpose of managing risk in creating, preserving, and realizing value."



# **COSO Components**





- Exercises Board Risk Oversight
- Establishes Operating Structures
- 3. Defines Desired Culture
- 4. Demonstrates
  Commitment
  to Core Values
- Attracts, Develops, and Retains Capable Individuals



### Strategy & Objective-Setting

- Analyzes Business Context
- 7. Defines Risk Appetite
- Evaluates Alternative Strategies
- Formulates Business Objectives



### Performance

- 10. Identifies Risk
- Assesses Severity of Risk
- Prioritizes Risks
- 13. Implements Risk Responses
- Develops Portfolio View



### Review & Revision

- Assesses Substantial Change
- Reviews Risk and Performance
- Pursues improvement in Enterprise Risk Management

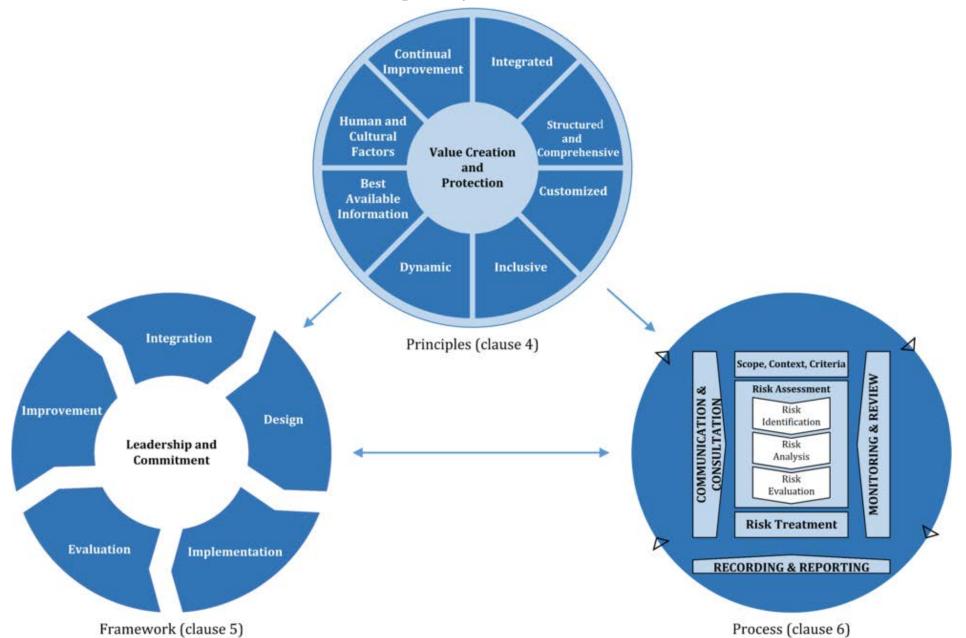


### Information, Communication, & Reporting

- 18. Leverages Information and Technology
- Communicates Risk Information
- 20. Reports on Risk, Culture, and Performance

Source: COSO Enterprise Risk Management – Integrating with Strategy and Performance Executive Summary, © 2017 Committee of Sponsoring Organizations of the Treadway Commission (COSO). All rights reserved. Used with permission.

### **ISO: 31000 Principles, Framework and Process**



#### ENTERPRISE RISK MANAGEMENT VICE PRESIDENT

**LOCATION:** Corporate **DIVISION:** Finance

#### **FUNCTION DESCRIPTION:**

Incumbent will be responsible for directing the development, implementation and execution of the credit union's enterprise risk management program. The ERM Director's responsibility will be to integrate risk management into the business strategy of the organization. This position ensures the organization's risk profile is in alignment with its risk appetite, and will be responsible for working with the leadership team to understand a cohesive view of organizational risks and opportunities.

### **ORGANIZATIONAL RELATIONSHIPS:**

Reports to: Chief Financial Officer

Supervises: Compliance Officer, Risk Manager

Contacts: Board of Directors, senior management and executives, branches/departments and

internal staff, auditors and examiners and vendors

### **QUALIFICATIONS/REQUIREMENTS:**

Education: Bachelor's degree in Business/Finance or related field, advanced degree preferred

CPA, CA (Chartered Accountant), CIA (Certified Internal Auditor) or equivalent is

preferred

Professional risk certification preferred

Experience: 8+ years experience in risk, internal/external auditing, or in consulting with leading

professional services firms

Regulatory/compliance experience preferred

Enterprise risk management experience preferred

Skills: Strong business background with the ability to identify risk in all areas of the credit

union

Ability to facilitate risk discussions with senior management

Ability to support and encourage risk management efforts among executives,

managers and staff

Strong leadership skills

Experience with project problem diagnosis, solution development, facilitation of

decision making and documentation

Strong analytic and organization skills

Ability to work autonomously and as part of a team

Broad understanding of various risks including compliance, interest rate, credit,

liquidity, transaction, strategic and reputation risks

Excellent verbal and written communication and interpersonal skills

Demonstrated persistence and willingness to question and challenge status quo (take

calculated risks)

Ability to translate strategies and goals into operational objectives

Deep experience in working with Microsoft Excel, Word and PowerPoint

Equipment: Computer keyboard and visual monitor, calculator, copier

#### **ESSENTIAL FUNCTIONS:**

- 1. Build trust and respect with executives, business managers and personnel
- 2. Demonstrate the credit union's member service philosophy in all interactions with key contacts and personnel in other departments.
- 3. Implement, execute and oversee the credit union's enterprise risk management program, ensuring a sustainable process of identifying, assessing and managing all organizational risks that might affect the achievement of strategic initiatives and goals.
- 4. Apply sound knowledge of risk management principles to research, analyze, and in collaboration with functional partners, recommend sustainable improvements to processes, products and systems while ensuring cohesion with organizational strategy.
- 5. Identify, evaluate and escalate issues that conflict with organization's risk appetite or tolerances and develops key risk indicators (KRIs) and key performance indicators (KPIs) to ensure timely monitoring.
- 6. Ensure risk and compliance information from a wide variety of sources is effectively aggregated, analyzed, and communicated to management to provide valuable insight and facilitate strategic decision-making.
- 7. Work with senior management to develop and implement Board approved strategies and policies, and provide leadership in executing those strategies.
- 8. Advise on tools, technology solutions, and communications to establish enterprise risk management as part of the credit union's culture.
- 9. Coordinate and work closely with other organization functions like disaster recovery, ALM, vendor management, etc.
- 10. Be responsible for staff development including routine coaching, monthly dialogs, employee performance reviews, recommendations for salary adjustments, initiating disciplinary action in accordance with established procedures, and hiring/termination.
- 11. Oversee Business Continuity Planning, Vendor Management, Security and Compliance functions.

Management retains the discretion to add to or change the duties of the position at any time.

### **WORKING CONDITIONS:**

- Travel is required
- Office environment
- Mobility throughout the corporate offices and to the branches
- The credit union requires all employees who drive personal or company vehicles in the routine performance of their jobs to have valid driver's licenses. They also must provide proof of valid insurance.

# Assessing Your ERM Program

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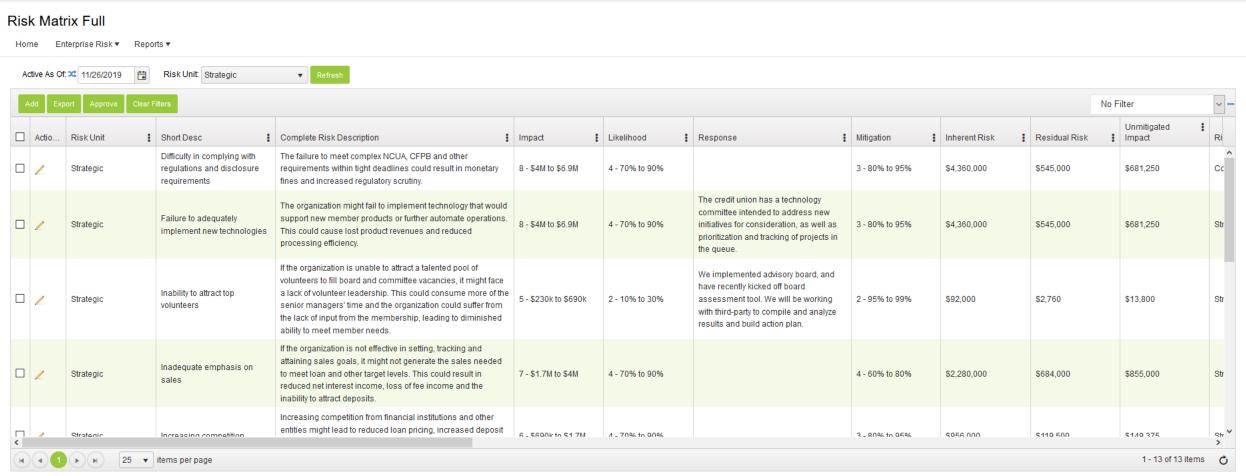
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Overall Total:				



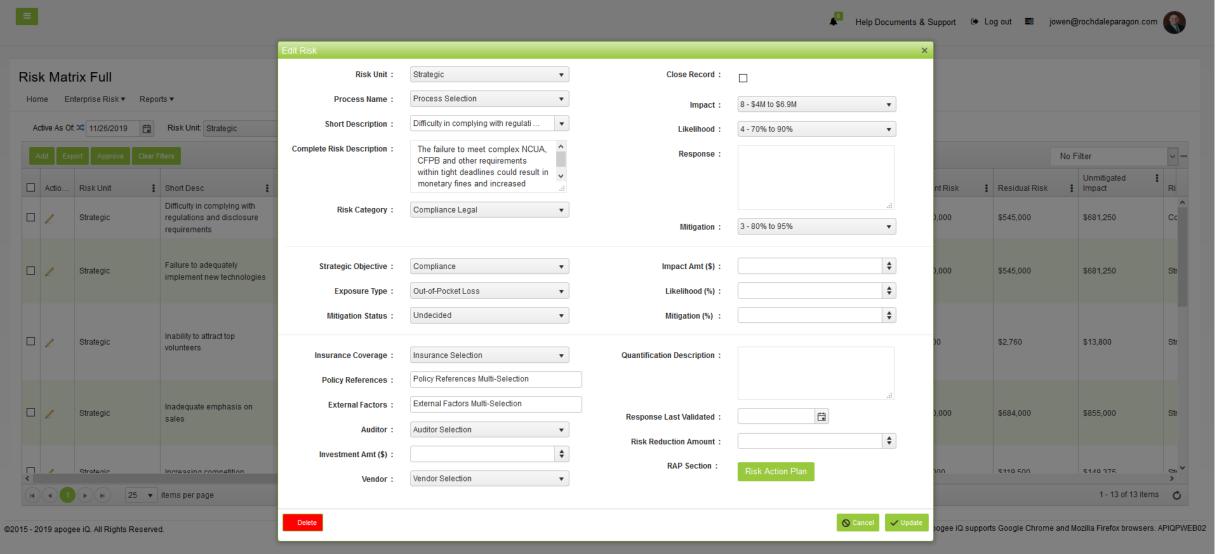
# Managing Risk (apogee iQ system)



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Use of apogee iQ supports Google Chrome and Mozilla Firefox browsers. APIQPWEB02

# Managing Risk (apogee iQ system)



# **Global BCP Scenario Examples**

Short Risk Description		Quantitative Likelihood
(75 characters max)	Complete Risk Description	(0% to 100 🔼
Storm disrupts power and	A hurricane might knock out local communications and power, prevent	10%
communications for three days	most staff from reaching work areas for three days, and cause a	
	systems outage (prior to responses).	
Loss of WAN data links between	The HQ WAN links might fail or be severed, putting all areas of CU off	30%
locations	line for four days. The locations would not be able to electronically post	
	member and shared branching transactions.	
Work force unavailable (e.g.,	A pandemic might cause 60% of staff to miss two weeks of work.	10%
pandemic)	Assume IT systems function normally.	
Four-month loss of HQ facility	A disaster might render the HQ facility unusable for four months and	1%
	cause a systems outage (prior to responses).	
One-day outage of core system	CU could experience a one-day outage of the core system, and thus	5%
	lose its ability to efficiently service members.	
Two-day HQ evacuation	An event might force a two-day evacuation of the HQ facility and cause	10%
	a systems outage (prior to responses).	
Loss of key data system	As the result of intrusion or viral corruption, CU might experience the	25%
	loss of a key system for one entire day. Assume that all other IT	
	systems function as normal.	
Snow storm / inclement weather	A weather-related event could occur that prevents most staff from	70%
	reaching work for one day. In evaluating the impact on your area,	
	assume that all IT systems function as normal so employees are able	
	to access Web-based systems from laptop computers remotely.	

# Global Economic Scenario Examples

Short Risk Description (75 characters max)	Complete Risk Description	Quantitative Likelihood (0% to 100
Rising rate environment	Economic growth might increase interest rates by 200 BP over the next year. Borrowing and deposit rates could increase, while deposit levels, home prices, auto prices and unemployment remain steady.	20%
Declining liquidity situation	Economic growth might increase interest rates by 200 BP over the coming year while deposit rates increase half as much. Assume deposit levels decrease by 5%, auto prices increase by 10%, and home prices and unemployment remain steady.	10%
Double dip recession	We could experience a "double-dip recession," where long-term asset and liability rates decrease by 100 BP. Assume home prices drop 10%, unemployment increases by 2 percetage points, and deposits increase by 5% as members make a "flight to safety."	30%
Adverse economic quarter	The economy might experience considerable negative movements in economic factors over the course of three months.	<2.5%
Adverse economic year	The economy could experience considerable negative movements in economic factors over one year.	<2.5%
Adverse economic event	The economy might experience the same negative movements in economic factors that occurred from June 30 to December 31, 2008.	<2.5%
Shock up 100 BP scenario	Interest rates might increase by 100 basis points in one month, decreasing asset values but increasing the rates at which the credit union can extend loans.	19%
Ramp up 300 BP scenario	Interest rates might gradually increase by 300 basis points in one year, decreasing asset values but increasing the rates at which the credit union can extend loans.	17%
Shock up 200 BP scenario	Interest rates might increase by 200 basis points in one month, decreasing asset values but increasing the rates at which the credit union can extend loans.	6%

# Report Example

To: CU RMCO

From: Rochdale Paragon Group

Date: January 21, 2018

Re: Enterprise Risk Management 2017 Q4 Report

#### Introduction

During the most recent quarter, all of CU's risk units updated their exposures. In addition, a RMCO meeting was held on December 15 to review the ERM report and discuss emerging risks.

#### Risk-Adjusted Capital Threshold

Presented below are the results of the Risk-Adjusted Capital Threshold analysis for the most recent quarters.

Reporting Period	2017 Q1	2017 Q2	2017 Q3	2017 Q4
"One in x years" event	20	20	20	20
Percentile	95th	95th	95th	95th
Assessed Residual Risk	63,725,350	62,082,925	54,335,075	51,665,800
Less: ALLL	15,000,000	15,500,000	16,000,000	15,500,000
Net Residual Risk	48,725,350	46,582,925	38,335,075	36,165,800
Total Net Worth	205,000,000	200,000,000	205,000,000	210,000,000
Less: Net Residual Risk	48,725,350	46,582,925	38,335,075	36,165,800
Adjusted Net Worth	156,274,650	153,417,075	166,664,925	173,834,200
Total Assets	2,000,000,000	2,100,000,000	2,150,000,000	2,200,000,000
Adj. NW/Total Assets	7.81%	7.31%	7.75%	7.90%
NCUA Well-Cap Threshold	7.00%	7.00%	7.00%	7.00%
Risk-Adj. "Cushion" (%)	0.81%	0.31%	0.75%	0.90%
Risk-Adj. "Cushion" (\$)	16,274,650	6,417,075	16,164,925	19,834,200

 The risk-adjusted capital cushion increased by over \$3 million in the most recent quarter due to a decline in assessed residual risk and an increase in net worth, while the credit union's ALLL decreased slightly. The credit union continues to maintain adequate capital given its risk profile.

#### Overview of Results

- The risk assessment for this reporting period for CU identified XXX risk exposures, comprising approximately \$XX.X million in residual risk (vs. XXX exposures and \$XX.XM in the previous quarter). Residual risk from new exposures added during the quarter totaled approximately \$XX,XXX. Approximately X.X% of total residual risk is represented by opportunity cost, vs. out-of-pocket loss.
- Significant risk drivers: the ongoing U.S. political landscape, global political risks, declining auto sales, rising interest rates and equity market volatility, cyber security risks, increasing fraud activity.



Below is a summary of the key drivers of changes in residual risk for the most recent quarter:

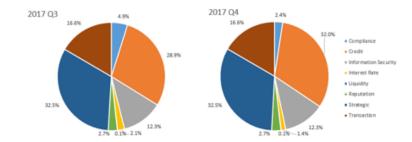
Action	Number of Exposures	Change in Residual Risk
Re-assessed higher	11	\$4.2M
New exposures added	1	\$0.2M
Re-assessed lower	11	(\$0.7M)
Closed/deleted exposures	3	(\$0.7M)
Totals	26	\$3.0M

The most significant changes in residual risk were as follows:

Short Risk Description	Change in Residual
-	Risk
Potential failure to meet bankruptcy collection requirements -	\$1,500,000
Collections	
CECL risk – Finance/ALM	825,000
Compliance with changing regulations and disclosure	(400,000)
requirements (closed) - Compliance/Legal	
Compression of interest margins – Finance/ALM	(245,000)
Inappropriate collection practices - Collections	(220,000)

#### Residual Risk by Category

- The breakdown of residual risk by risk category, compared for the most recent two quarters, is depicted below.
- This breakdown is similar to that of many of Rochdale Paragon's clients.



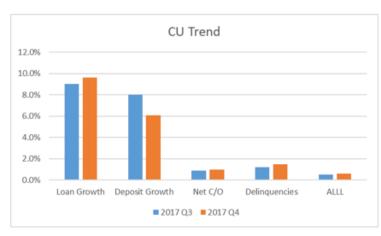
## Report Example Continued

#### External Economic Environment Highlights

- Interest rates remain very low, but increased during the most recent quarter as the FOMC continued tightening. The two-year Treasury yield increased by 42 basis points, while the ten-year yield increased by seven basis points, resulting in further flattening of the yield curve. The rate environment continues to bode well for financial institutions.
- Home prices have continued to trend higher nationally and in most markets, including
  most of the credit union's primary lending markets, though prices have moderated in
  some of the more "bubbly" markets. Mortgage foreclosures remain low nationwide.
- Unemployment remains low nationally at 4.1 percent the lowest rate in 17 years and is below that mark in much of the credit union's market.
- Real GDP grew by 2.6 percent in the most recent <u>quarter</u>, <u>and</u> has averaged nearly 3.0 percent over the last three quarters. Auto sales declined after a spike in the aftermath of the <u>hurricanes</u>, <u>and</u> will likely remain on-trend. Headline CPI is 2.1 percent. Continued moderate inflation is expected, though increases in average earnings since the end of the quarter have raised some concern about increasing inflation.

#### Credit Union Trend Comparison

- Annualized loan growth increased to 9.6% vs. the prior quarter's 9.0%.
- Annualized deposit growth decreased to 6.1% from 8.0% in the prior quarter.
- . Loans-to-shares increased to 80.3% from 78.4% in the prior quarter.
- Net charge-offs increased slightly to 1.0% of average loans from 0.9%, while delinquencies increased to 1.5% of total loans from 1.2%.
- The credit union's loan loss allowance increased slightly to 0.6% of total loans from 0.5%.

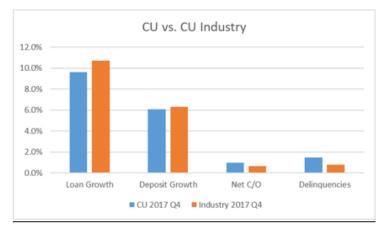


#### Credit Union vs Overall Credit Union Industry - Key Comparisons

Loan and deposit growth rates are annualized based on current quarter data. Credit Union data is taken from the credit union's Financial Performance Report. Industry data is from CUNA.

- Annualized loan growth in the most recent quarter was 9.6%, slightly below the industry average of 10.7%.
- Annualized deposit growth was 6.1%, below the national average of 6.3%.
- Loans-to-shares were 80.3% for the most recent quarter, which remains above the industry average of 83.1%.

Net charge-offs were 1.0% of average loans in the most recent quarter, **slightly above** the industry average of 0.7%, while delinquencies were 1.5% of total loans, **above** the industry average of 0.8%.



#### <u>Appendices</u>

The appendices accompanying this report present a great deal of additional information on the credit union's overall risk profile and key risk exposures.

#### A. Top 10 potential risk exposures, sorted by declining residual risk

 The risk unit, short and complete risk descriptions, and summarized mitigating responses are presented, followed by the residual risk for each exposure.

#### B. Key External Factors and Risk Measures

 Depicts data that provide information on CU's current risk profile and changes in the profile over time.

#### C. Residual Risk by Risk Unit

 Represents a summary of the credit union's residual risk by risk unit. Residual risk is the net exposure considering the impact, likelihood and completeness of mitigation of the risk exposure.

#### D. Top 15 Risk Heat Map

Provides a visual representation of the credit union's top 15 risks. The risks appear
as color-coded spheres on a graph of impact versus likelihood. The color of a sphere
represents the completeness of mitigation of the credit union's responses in
managing the impact and likelihood of the <u>particular exposure</u>.

#### E. Key Strategic Risks Heat Map

Provides a visual representation of CU's key strategic risks.

#### F. ERM Qualitative Assessment Measures

 Outlines the qualitative impact, likelihood and mitigation criteria the credit union uses to ensure consistent risk assessment across the organization.

#### G. Significant Emerging Risks

Presents the largest changes in residual risk from the prior reporting period.

# Report Example Continued Objectives of ERM Program

**Board of Directors** To:

Risk Management Committee (RMCO) From:

Date: October 15, 20XX

Enterprise Risk Management 20XX Q2 Report Re:

The key objectives of CU's Enterprise Risk Management (ERM) program are as follows:

- Identify and assess key emerging risks.
- Apply resources efficiently to best manage the risks.
- Coordinate risk management efforts across the credit union.
- Provide information that CU can use to align risk appetite and its business strategy.

#### Periodic ERM Process

CU has completed its ERM process for the most recent update period:

- CU provided ERM training to management and other personnel.
- All CU functional areas updated their risk matrices by making applicable changes in the impact, likelihood and completeness of mitigation ratings of their risk exposures.
- The areas also identified and assessed five new risks during the update period.
- CU prepared the analysis described in this periodic ERM report.

#### Risk Assessment and Categories

Residual risk is a key metric that considers the impacts, likelihoods and mitigations of the various risk exposures:

- The assessments are done using a consistent rating scale and methodology so that different departments assess risks consistently.
- CU assigns each risk to one of seven risk categories.
- This process allows CU to prioritize actions to mitigate or capitalize on exposures and track changing risk levels over time.

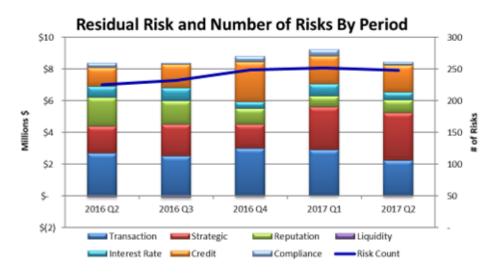
Attachment 1 to this report details the impact, likelihood, and completeness of mitigation scales that CU uses in assessing its key risk exposures.

#### SUMMARY OF RISK PROFILE

#### Overview of Changes in Risk Profile

In this update, CU's staff assessed a decrease in overall residual risk compared to the prior period.

Total residual risk decreased by about \$801,000 to \$8.4 million overall, representing an 8.7 percent decrease in total residual risk.



Personnel believe that current responses are appropriate to mitigate more than 83 percent of these risks but are in the process or planning to enhance the responses related to 45 risks:



- Attachment 2 to this report presents a breakdown of residual risk by risk unit and risk category.
- Attachment 3 presents a heat map of CU's top 15 residual risk exposures.
- Attachment 4 includes a list of detailed information on the credit union's top 52 30 residual risk exposures.

# Report Example Continued

#### Key Drivers of Change in Overall Residual Risk Level

The largest increases in assessed risks during the current update are as follows:

			Channa	
			Change	
Risk Unit	Risk Category	Short Risk Description	Residual Risk	Rationale for Change
Finance	Interest	Compression of interest	\$350,000	Increased assessment to capture
	Rate	margins		the effect that margin
				compression is having on
				earnings.
Collections	Credit	Life changes causing	\$275,000	Adjusted to reflect higher
		mortgage loan		delinguent loan balances.
		delinquencies		•
Finance	Interest	Shock up 100 BP scenario	\$275,000	Updated ALM modeling shows
	Rate	interest rate risk		increased NII volatility in various
				rate scenarios.
Training	Transaction	Key person risk	\$175,000	The credit union lost its trainer to
				a Call Center position.
Card	Transaction	Lost and stolen cards	\$125,000	Increased to reflect higher losses
Services				versus 2016. The EMV rollout
				should decrease future losses.

The largest decreases in assessed risks during the current update are as follows:

Risk Unit	Risk Category	Short Risk Description	Change in Residual Risk	Rationale for Change
IT	Reputation	Data breach by external source	(\$541,500)	The credit union has strengthened information security processes in many ways since 2016.
Strategic	Credit	Loan pricing, competition and demand risk	(\$332,500)	Decreased risk to reflect improved risk-based pricing processes.
Collections	Credit	Life changes causing unsecured loan delinquencies	(\$150,000)	Adjusted to reflect lower delinquent loan balances.
Collections	Credit	Poor economy resulting in recession or increased unemployment	(\$141,750)	Adjusted the likelihood downward to reflect improving economic conditions.
Call Center	Strategic	Missed sales opportunities	(\$140,000)	Improved the mitigation to reflect improving sales and lending performance.

Attachment 5 to this report, Residual Risk Changes Report, provides additional information on the above risk changes as well as other exposures with changing assessments.

#### Capital Adequacy

CU's capitalization continues to be strong given its risk exposures.

 The ratio of actual to economic capital is 2.80, indicating that CU has nearly three times the capital needed to cover a near-worst-case, unexpected loss scenario.

(All figures in 000s) Economic Capital Calculations	December	81, 2	2018		March	31,	2017		June	30,	2017	_	eriod to od Change
Basel approach: Total Equity (000s)		\$	71,000			\$	73,000			\$	77,000	\$	4,000
Risk-based capital components: Credit risk component Market risk component Operational risk component Total components	\$ 33,000 - 2,500 35,500		35,500	\$	37,000 - 3,000 40,000		40,000	5	41,000 1,000 4,000 46,000	-	46,000		6,000
Excess of actual capital over economic capital			35,500				33,000				31,000	ş	(2,000)
Ratio of actual to economic capital			2.00				1.83				1.67		(0.15)
(All figures in 000s) Economic Capital Calculations	December:	81, 2	1018		March	31,	2017		June	30,	2017	_	eriod to
Simulation approach: Total Equity (000s)		s	71,000			\$	73,000			\$	77,000	\$	4,000
Simulation 99.9th percentile value Less ALLL Not economic capital	\$ 13,500 (3,000) 10,500	s	10,500	ş	14,000 (3,500) 10,500	\$	10,500	\$	13,000 (4,000) 9,000		9,000	ş	(1,000) (500) (1,500)
Excess of actual capital over economic capital		\$	60,500			\$	62,500			\$	68,000	\$	5,500
Ratio of actual to economic capital Average Economic Capital Ratio			6.76 3.09				6.95 2.89				8.56 2.80		(0.09)

The ratio dropped from its previous value of 2.89 for several reasons:

- The credit risk component of the Basel calculation approach increased due to substantial increases in loan balances.
- The market risk component increased because of increasing NEV volatility in an upward rate environment.
- The operational component increased due to increasing gross income, which
  is the basis for this component using the FRB's Basic Indicator approach.
- Total equity also increased, but by a relatively smaller multiplier than the credit, market and operational components.

### Report Example Continued

#### Economic Overview

	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2
External Economic Factors					
Interest rates (2-yr Treasury)	0.58%	0.77%	1.20%	1.27%	1.38%
Interest rates (5-yr Treasury)	1.01%	1.14%	1.93%	1.93%	1.89%
S&P/CS Seasonally Adjid Home Price Index YOUR CITY	N/A	N/A	N/A	N/A	N/A
FRB annual light vehicle sales (millions)	16.77	17.68	18.32	16.52	16.41
USDL YOUR CITY seas-adjtd unempl rate	N/A	N/A	N/A	N/A	N/A

- Interest rates remain very <u>low, but</u> have increased relative to 20XX Q1. Since 20XX Q1, five-year Treasury rates has decreased by four basis points while two-year Treasury rates have increased by 11 basis points, slightly steepening the yield curve.
- Home prices in the local area continue to rise, posting some of their highest levels since late 20XX.
- Nationally, light vehicle sales remain very strong but have decreased slightly since 20XX Q1. Used vehicle prices increased slightly during 20XX Q1 but many industry sources predict some declines in values over the next couple of years due to increasing supplies.
- Local unemployment slightly increased since 20XX Q1 to X.X percent.
- CUNA projects a 2.3 percent increase in real GDP for 20XX.
- CUNA estimates that overall credit union loan growth has been 5.2 percent in 20XX through Q2 against savings growth of 5.0 percent, and projects 10.5 percent growth in loans and 7.0 percent growth in deposits overall for 20XX. CU's loan growth is stronger than the national average, and CU has seen loans grow at a XX.X percent annualized rate in 20XX.

#### QUANTITATIVE AND QUALITATIVE DISCUSSION BY RISK CATEGORY

#### Credit Risk (WOULD COVER OTHER CATEGORIES WITH SIMILAR SECTIONS)

Credit risk is the risk to earnings or capital arising from an obligor's failure to meet terms of any contract with the credit union or otherwise fail to perform as agreed.

	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2
C redit Risk Metrics					
Rolling 12 mas net chg-offs (000s)	\$1,600	\$1,400	\$1,900	\$1,800	\$2,000
Net chg-offs to avg loans	0.38%	0.38%	0.37%	0.39%	0.40%
Delinquent Ioans/total Ioans (Del. Ratio)	0.56%	0.55%	0.51%	0.54%	0.56%
Net margin/avg assets	5.66%	5.63%	5.45%	5.34%	5.40%
Net interest margin/avg assets	3.78%	3.77%	3.98%	4.00%	3.89%
Provision exp/avg assets	0.40%	0.44%	0.43%	0.40%	0.35%
ALLL/total loans	1.25%	1.30%	1.40%	1.35%	1.00%
Ris k-bas ed net worth regmt	5.81%	5.65%	5.05%	7.00%	6.52%
Resid credit risk/total equity	1.90%	2.27%	3.72%	3.00%	2.27%

- Credit risk comprises \$1.6 million, or 19.0 percent, of total assessed residual risk.
- It is the highest category of actual losses that can be tracked by CU, and the third largest category of assessed residual risk.
- · Seven large risks represent 85.2 percent of overall credit risk:

Risk Unit	Short Risk Description	Impact	Likelihood	Mitigation	R	Risk
Collections	Life changes causing mortgage loan delinguencies	9 - \$4M to \$6M	3 - 30% to 70%	3 - 80% to 95%	S	450,000
Business Lending	Declining profitability of borrowers in normal economic conditions	7 - \$1M to \$2.3M	3 - 30% to 70%	4 - 60% to 80%	\$	325,000
Collections	Life changes causing unsecured loan delinquencies	7 - \$1M to \$2.3M	4 - 70% to 90%	3 - 80% to 95%	\$	180,000
Business Lending	Declines in real estate values	8 - \$2.3M to \$4M	2 - 10% to 30%	3 - 80% to 95%	\$	75,000
Business Lending	Declining economic conditions resulting in loan delinquencies	8 - \$2.3M to \$4M	2 - 10% to 30%	3 - 80% to 95%	\$	75,000
Collections	Poor economy resulting in recession or increased unemployment	8 - \$2.3M to \$4M	1 - 0% to 10%	4 - 60% to 80%	\$	55,250
Business Lending	Inaccurate appraisal of collateral	6 - \$400k to \$1M	3 - 30% to 70%	3 - 80% to 95%	\$	43,750

# Report Example Continued

- To mitigate its credit risks, CU maintains underwriting procedures, secures liens on collateral, follows up promptly on delinquent balances, and forecloses or repossesses collateral as necessary. It budgets for the first four of these risks, considers loss expectations in loan pricing, and maintains an allowance for loan and lease losses, based on industry practices, which is at or above the level expected to be necessary to cover loan losses over the next 12 months. CU estimates that its responses mitigate 83 percent of inherent credit risk.
- In the near term, the credit union assigns relatively low probabilities of experiencing three of the last four of the above risks, and the low probabilities reduce their levels of residual risk. If the credit union were to experience declining economic conditions and collateral values, it likely would incur losses that are well above the residual risk levels of the last three risks above.
- CUNA projects a 20XX year-end delinquency rate of 0.80 percent, which would be slightly below last year's delinquency rate.
- CU's rolling-12-month net charge-offs have slightly increased in 20XX Q2 in comparison to 20XX Q1 and the ratio of net charge-offs to average loans has slightly increased in comparison to earlier years.
- The ratio of delinquent loans to total loans has also increased.
- The edits to various credit risks coupled with increases in total equity have decreased the ratio of residual credit risk to total equity.

\*\*\*\*\*\*\*\*\*\*

The remaining sections of this ERM Report provide a considerable amount of additional information on CU's risk positions and mitigating actions.

#### Attachments

Attachment 1

ERM Qualitative Assessment Measures

Attachment 2

Residual Risk by Risk Unit and Risk Category

Attachment 3

Heat Map of Top 15 Residual Risks

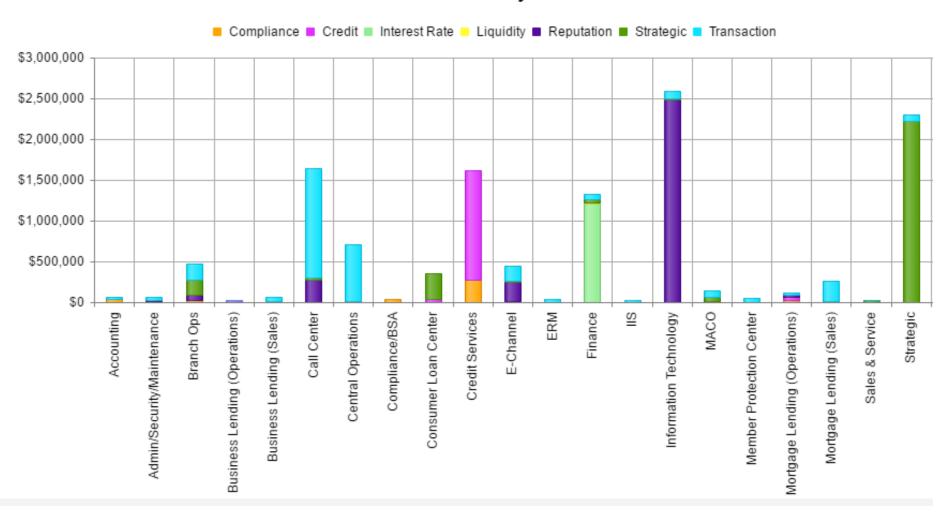
Attachment 4

Top Residual Risks

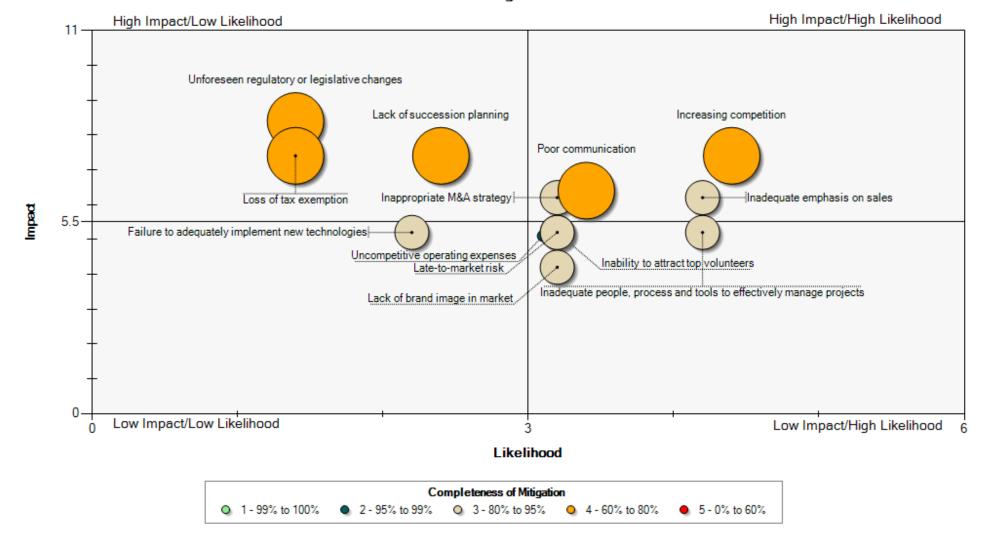
Attachment 5

Residual Risk Changes Report

### Residual Risk By Risk Unit



#### Heat Map Strategic





### Largest Residual Risks by Risk Category

Number Of Risks 5

Risk Unit Name	Risk Category	Short Risk Description	Complete Risk Description	Response	Impact Rating	Likelihood Rating	Mitigation Rating	Inherent Risk	Residual Risk
Branch Management	Compliance	Failure to submit CTRs and SARs	If the credit union falls to submit CTRs and SARs in accordance with requirements, it might incur substantial penalties and regulatory scrutiny.	The credit union completes annual BSA training for for all staff; it has a BSA officer that is responsible for all BSA activities; it has an annual BSA audit and is reviewed by examiners annually and addresses deficiencies immediately. The credit union might benefit from automating its tracking and reporting of cash transactions exceeding thresholds.	6 - \$1M to \$2.6M	3 - 30% to 70%	5 - 0% to 60%	\$900,000	\$450,000
Marketing	Compliance	Compliance with changing regulations and disclosure requirements	The credit union might fall to comply with constantly changing regulations such as TIL, TIS, do-not-call list and other requirements. This could result in fines, lawsuits and increased regulatory scrutiny.	The credit union maintains a policy that all member communications and disclosures be reviewed by legal staff. Marketing also strives to review all materials distributed through branches.	7 - \$2.6M to \$6M	2 - 10% to 30%	4 - 60% to 80%	\$860,000	\$258,000
Branch Management	Compliance	Failure to monitor and comply with OFAC requirements	The credit union might not perform all necessary OFAC scans on members. This could result in regulatory fines and increased regulatory scrutiny.	The credit union completes an OFAC audit annually; it maintains a system that automatically scans the entire membership database and all transactions for OFAC hits.	7 - \$2.6M to \$6M	2 - 10% to 30%	3 - 80% to 95%	\$860,000	\$107,500
Human Resources	Compliance	Failure to comply with personnel laws and regulations	The credit union might fall to comply with FMLA, FLSA, ADA, EEO and other personnel requirements. This could subject the credit union to litigation, fines and additional regulatory scrutiny.	The organization utilizes an external attorney for all personnel concerns. All managers are trained that any employee personnel issue must go through the HR Dept.	6 - \$1M to \$2.6M	4 - 70% to 90%	1 - 99% to 100%	\$1,440,000	\$7,200
Collections	Compliance	Inappropriate collection practices	The credit union might use inappropriate or overly aggressive collection practices in following up on overdue accounts. This could result in penalties, member lawsuits and reduced recoveries from disgruntled members.	The Collections area maintains policies and procedures regarding collection practices. It utilizes a system that tracks collection activity, and provides a daily work list of highest priority collection activity. It utilizes reputable collection vendors. Collection calls are recorded and reviewed periodically to help ensure member service.	3 - \$30k to \$100k	4 - 70% to 90%	3 - 80% to 95%	\$52,000	\$6,500
Business Services	Credit	Declines in real estate values	The value of real estate securing mortgage loans on commercial properties might decrease. In the event of borrower defaults, this could lead to decreased recoveries and increased net charge-offs.	The credit union completes annual monitoring of commercial properties. Based upon policy, different levels of reviews occur. Convenants are built into commercial loans requiring additional collateral if real estate values decline past a certain threshold.	8 - \$6M to \$10M	2 - 10% to 30%	3 - 80% to 95%	\$1,600,000	\$200,000
Accounting	Credit	Concentration risk	The institution might emphasize a certain type of ioan, investment or deposit such that it produces a relatively high level of concentration. If the sector were to experience problems, the results could include increased ioan losses, investment losses, and regulatory attention.	The institution maintains a diversified portfolio of investments and loan products. It has regular Credit Committee meetings to discuss its desired and current investment and loan allocations to ensure that it is remaining financially liquid, while taking advantage of any arbitrage opportunities.	6 - \$1M to \$2.6M	3 - 30% to 70%	3 - 80% to 95%	\$900,000	\$112,500
Collections	Credit	Declines in real estate values	The value of real estate securing second position home equity loans might decrease such that the loans have negative net equity positions after first mortgages. If the loans were to become delinquent, the credit union might have to "walk away" from the loans and incur increased net charge-offs after recoveries.	The credit union monitors real estate values no less frequently than annually. It utilizes a variety of tools to maintain current valuations, and to address declines in an expeditious manner.	6 - \$1M to \$2.6M	2 - 10% to 30%	4 - 60% to 80%	\$360,000	\$108,000
Accounting	Credit	Investments fail to perform as expected	The credit union might own investment securities that are subject to counterparty defaults or fall to perform as expected. This could result in OTT1 write-downs and decreased net interest income.	The institution has a diversified investment portfolio and manages a conservative portfolio. It uses advisors to help determine appropriate investment opportunities.	5 - \$340k to \$1M	3 - 30% to 70%	3 - 80% to 95%	\$335,000	\$41,875



### **Residual Risk Changes**

Number Of Risks 30

Risk Unit Name	Strategic Objective	Risk Category	Short Risk Description	Complete Risk Description	Current Qualitative Measures	Current Residual Risk	Previous Qualitative Measures	Previous Residual Risk	Change in Residual Risk
Marketing	Process	Reputation	Social networking reputation risk	Disgruntled members or employees might post negative information about the credit union via social media. This could cause negative publicity, reputation risk, and decreased demand for products and services.	Impact: 8 - \$6M to \$10M Likelihood: 5 - 90% to 100% Mitigation: 5 - 0% to 60%	\$3,800,000	New		\$3,800,000
Marketing	Financials	Strategic	Inadequate emphasis on sales	If the credit union is not effective in setting, tracking and attaining sales goals, it might not generate the sales needed to meet loan and other target levels. This could result in reduced net interest income, loss of fee income and the inability to attract deposits.	Impact: 8 - \$6M to \$10M Likelihood: 5 - 90% to 100% Mitigation: 5 - 0% to 60%	\$3,800,000			\$3,800,000
Accounting	Financials	Strategic	Inappropriate loan and deposit pricing	The pricing of loans and deposits might be inconsistent with the credit union's ALM and credit artegies. This could lead to decreased loan net interest income after net charge-offs, increased deposit interest expense, and insufficient liquidity.	Impact: 10 - \$15M+ Likelihood: 3 - 30% to 70% Mitigation: 4 - 60% to 80%	\$2,250,000	New		\$2,250,000
Branch Management		Strategic	Inadequate emphasis on sales	If the credit union is not effective in setting, tracking and attaining sales goals, it might not generate the sales needed to meet loan and other target levels. This could result in reduced net interest income, loss of fee income and the inability to attract deposits.	Impact: 8 - \$6M to \$10M Likelihood: 3 - 30% to 70% Mitigation: 5 - 0% to 60%	\$2,000,000	New		\$2,000,000
Contact Center		Transaction	Employee theft or fraud	Employees could use access to member information, or to the wire system, to initiate fraudulent transactions. This could result in substantial fraudulent transactions that the credit union must write off, expenses in providing identity theft protection, and member dissatisfaction.	Impact: 10 - \$15M+ Likelihood: 4 - 70% to 90% Mitigation: 3 - 80% to 95%	\$1,500,000	New		\$1,500,000
Π	Members	Reputation	Data breach by external source	A hacker might breach the credit union's systems or network. The results could include the loss of member information, destruction of data, and initiation of fraudulent transactions on member accounts, leading to write-offs, member dissatisfaction and increased operating expense.	Impact: 9 - \$10M to \$15M Likelihood: 5 - 90% to 100% Mitigation: 3 - 80% to 95%	\$1,484,375	New		\$1,484,375
Branch Management	Process	Transaction	Employee theft or fraud	Employees could use access to member information, or to the wire system, to initiate fraudulent transactions. This could result in substantial fraudulent transactions that the credit union must write off, expenses in providing identity theft protection, and member dissatisfaction.	Impact: 7 - \$2.6M to \$6M Likelihood: 4 - 70% to 90% Mitigation: 4 - 60% to 80%	\$1,032,000	New		\$1,032,000
Branch Management	Compliance	Compliance	Failure to submit CTRs and SARs	If the credit union fails to submit CTRs and SARs in accordance with requirements, it might incur substantial penalties and regulatory scrutiny.	Impact: 6 - \$1M to \$2.6M Likelihood: 3 - 30% to 70% Mitigation: 5 - 0% to 60%	\$450,000	New		\$450,000
Accounting	Financials	Interest Rate	Shock up 200 BP scenario	Interest rates might increase by 200 basis points in one month. This could decrease net interest income.	Impact: 10 - \$15M+ Likelihood: 2 - 10% to 30% Mitigation: 3 - 80% to 95%	\$375,000	New		\$375,000

### Largest Mitigation Opportunities

	G apo	ogee id				Largest	viidgado	п Орроп	dillico
	Risk Unit	Risk Category	Short Risk Description	Complete Risk Description	Response	Current Qualitative Measures	Current Residual Risk	Risk Opp from Improving Mitigation by One Rating	Mitigation Status
I	Т	Transaction	Data breach by external source	A hacker might breach the credit union's systems or network. The results could include the loss of member information, destruction of data, and initiation of fraudulent transactions on member accounts, leading to write-offs, member dissatisfaction and increased operating expense.	All credit union personnel receive at least annual information security training. The credit union has anti-malware software and network monitoring. It has a DLP email filtering system and web filtering software. It conducts periodic penetration testing and vulnerability scanning. Insurance would cover a portion of this risk.	Impact 10 - 10M+ Likelihood 5 - 90% to 100% Mitigation 3 - 80% to 95%	\$1,187,500	\$902,500	In Process
- 1	Business ending	Compliance	Failure to meet regulatory requirements	The credit union could fail to meet business lending regulatory requirements. This might result in regulatory scrutiny, fines, and possible reputation risk.	The credit union uses a vendor to provide loan documentation that is consistent with regulations. Business Lending personnel attend compliance training. Business Lending policies are reviewed by Compliance and outside legal counsel. Business Lending meets with Compliance regularly to discuss regulations. Business Lending personnel communicate with industry colleagues on regulatory changes.	Impact 7 - \$1.7M to \$3.9M Likelihood 4 - 79% to 90% Mitigation 3 - 80% to 95%	\$280,000	\$212,800	In Process
1	Marketing	Reputation	Theft of member information by vendors	Marketing might use a mailing or other vendor that uses the credit union's mailing lists for unscrupulous purposes. This could cause a serious public relations event, resulting in member withdrawals and lawsuits for the unauthorized sharing of member information.	The credit union conducts due diligence on its vendors. Compliance reviews vendor contracts. Marketing personnel use secure FTP sites to transmit sensitive member information. Marketing scrubs member numbers from its NPS surveys.	Impact: 10 - \$10M+ Likelihood: 2 - 10% to 30% Mitigation: 3 - 80% to 95%	\$250,000	\$190,000	Planned
H	iR	Transaction	Excessive employee turnover and/or poor retention	The credit union might experience high levels of undesired employee turnover or have difficulty in retaining its most competent employees. This could result in increased operating expense and diminished member service.	The credit union monitors employee satisfaction annually. It strives to create an environment conducive to retention. It offers generous bonus programs and attractive performance incentives. It has a management succession and development plan.	Impact: 6 - \$670K to \$1.7M Likelihood: 4 - 70% to 90% Mitigation: 4 - 60% to 80%	\$284,400	\$165,900	In Process
F	inance	Transaction	Poor, misleading or inaccurate ALM modeling	Inaccurate ALM modeling assumptions or calculations could result in inappropriate balance sheet positioning and suboptimal earnings.	The credit union uses a qualified third party to perform ALM modeling. Its ALM modeling vendor conducts backtesting. It uses a different third party to validate its ALM modeling.	Impact: 6 - \$670K to \$1.7M Likelihood: 4 - 70% to 90% Mitigation: 4 - 60% to 80%	\$284,400	\$165,900	In Process
I	Т		Theft of IT equipment and mobile devices	equipment or mobile devices, which could result in increased replacement costs and theft of sensitive information.	Personnel attend annual information security training. The credit union encrypts all laptops. It has the ability to remote wipe data from mobile phones. It conducts inventories of mobile devices. Insurance might cover a portion of this risk.	Impact: 9 - \$6.7M to \$10M Likelihood: 2 - 10% to 30% Mitigation: 3 - 80% to 95%	\$208,750	\$158,650	
	Contact Center	Transaction	Member identity theft	Criminals might purport to be members to initiate loan advances and withdrawals on member accounts. This could result in member dissatisfaction, losses in reimbursing members, and increased operating expenses in providing identity theft protection.	The Contact Center has standard identification procedures as well as high-risk identification procedures. The Contact Center has call monitoring procedures. Personnel receive training on Fraud prevention techniques. Personnel use their experience to detect potentially suspicious transactions. Insurance might cover a portion of this risk.	Impact: 6 - \$670K to \$1.7M Likelihood: 4 - 70% to 90% Mitigation: 3 - 80% to 95%	\$118,500	\$90,060	In Process
S	Strategic	Strategic	Not keeping up with technology		The credit union discusses technology in its annual strategic plans. It receives outside information through conferences, webinars, forums and consultants. The credit union has a robust member feedback process.	Impact: 6 - \$670K to \$1.7M Likelihood: 3 - 30% to 70% Mitigation: 3 - 80% to 95%	\$74,063	\$56,228	In Process

# **Risk and Strategy**

Risk Centric Strate	gic Planniı	ng Exercis	e					
Risk Scenario (75 characters max)	Impact (1=Insig, 10=Catastrophic)	Likelihood (1=Very Rare, 10=Certain)	Velocity (1=Extremely Slow, 10=Already a Threat)	Severity of Scenario (Imp x Liklhd x Vel)	Comments on Today's Readiness of Strategies to Address Scenario	Composite Strategic Readiness	Readiness- Adjusted Severity	Readiness- Adjusted Severity Rank
Example:								
Severe economic recession	8 - Severe	8 - Very Likely	10 - Already a Threat	640	We are continually finding innovative ways to generate income for the credit union, primarily through loan growth, but also through the appropriate implementation of fees. We solicit ideas from staff for ways to enhance revenue, and several managers also belong to idea-exchanging forums.	3 - Very Prepared	160	1
Results from Risk Centric Planning Exerc	ise:							
_								

# **Risk and Strategy**

### **Qualitative Factors for Risk Centric Strategic Planning**

What is th	e potential magnitude of the risk scenario?		
Impact Rating	Description	From	То
10	Catastrophic - Loss of an entire year or more of earnings.		
9	Severe/Catastrophic - Between severe and catastrophic.		
8	Severe - Loss of a half-year of earnings.		
7	Major/Severe - Between major and severe in impact.		
6	Major - Loss of two months of earnings.		
5	Moderate/Major - Between moderate and major in impact.		
4	Moderate - A serious loss but one that is often incurred.		
3	Minor/Moderate - Between minor and moderate in impact.		
2	Minor - Such losses are incurred each year in normal operations.		
1	Insignificant - This exposure has a relatively small impact.		

How quick	ly do you believe the scenario will develop over the next ten years	5 <i>?</i>	
Response			
Velocity			
Rating	Description	From	То
10	Already a Threat	90%	100%
9	Extremely Fast	80%	90%
8	Very Fast	70%	80%
7	Fast	60%	70%
6	Fairly Fast	50%	60%
5	Moderately Fast	40%	50%
4	Somewhat Slow	30%	40%
3	Slow	20%	30%
2	Very Slow	10%	20%
1	Extremely Slow	0%	10%

How likely	How likely is the scenario to develop over the next ten years?							
Likelihood								
Rating	Description	From	То					
10	Certain	90%	100%					
9	Almost Certain	80%	90%					
8	Very Likely	70%	80%					
7	Likely	60%	70%					
6	Somewhat Likely	50%	60%					
5	Possible	40%	50%					
4	Somewhat Possible	30%	40%					
3	Unlikely	20%	30%					
2	Rare	10%	20%					
1	Very Rare	0%	10%					
•								

 1	Extremely Slow	076	1076		
 		·	_		
How well prepared are the credit union's current strategies and capabilities to address a particular risk?					
Strategic					
Readiness					
Rating	Description	From	То		
10	Not Prepared	0%	10%		
9	Barely Prepared	10%	20%		
8	Slightly Prepared	20%	30%		
7	Somewhat Prepared	30%	40%		
6	Almost Well Prepared	40%	50%		
5	Well Prepared	50%	60%		
4	Almost Very Prepared	60%	70%		
3	Very Prepared	70%	80%		

80%

90%

100% 62

Almost Completely Prepared

Completely Prepared

## Risk Appetite Example

The credit union has low appetite overall for compliance risk. It will avoid aggressive regulatory strategies and interpretations to minimize regulatory criticism. It will carefully comply with laws and regulations to protect itself from fines, penalties, and lawsuits. It will maintain its regulatory ratings even if doing so means it might not be able to offer certain products to members. It will avoid exposing the credit union to lawsuits and costs from facilities, vehicle, and employee safety issues.

### Consistent

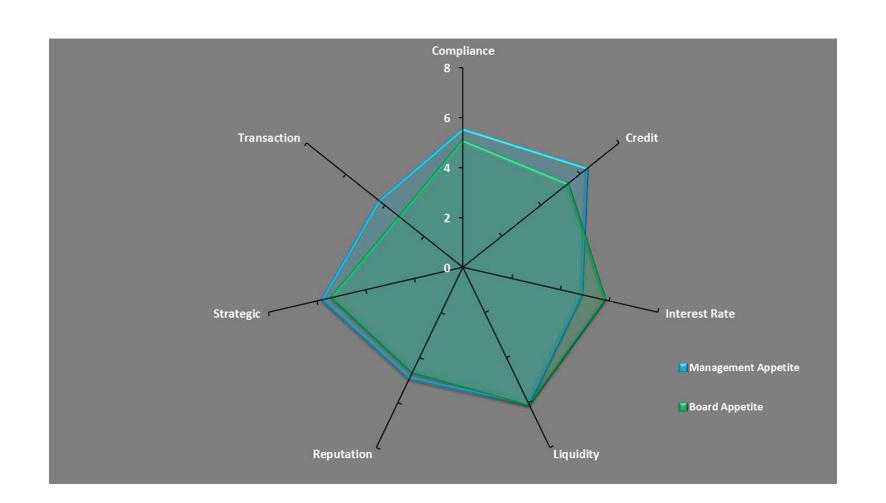
- Take easily defensible approaches in responding to regulations and accounting requirements
- Go to great lengths to avoid fines and penalties
- Strive to prevent any declines in the CAMEL rating

### Inconsistent

- Operate in many "grey areas" of regulatory and accounting interpretations
- Aggressively defend only marginally beneficial positions
- Knowingly violate regulations
- Assume an adversarial stance with regulators
- Experience repeat DORs

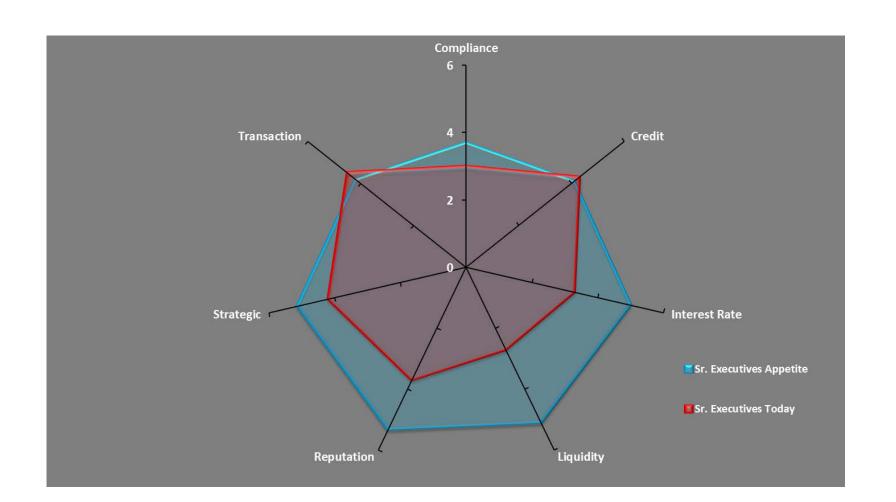
# Risk Appetite Example

Consider exploring the reasons for the differences



## Risk Appetite Example

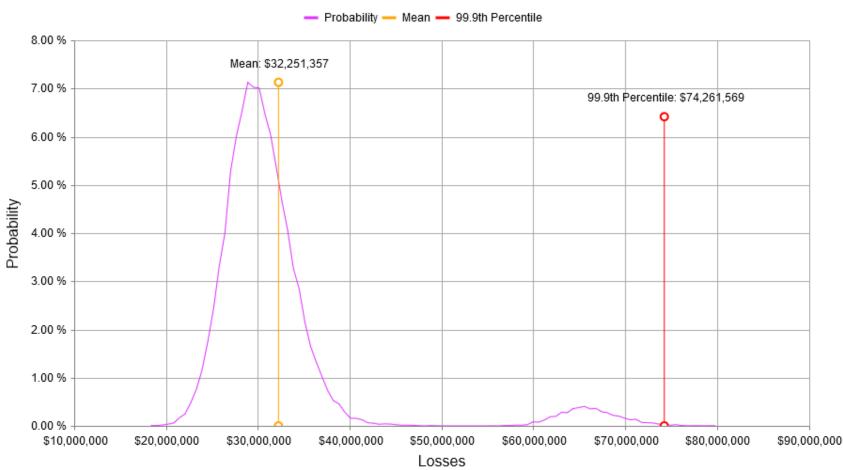
Consider including current risk level questions in the survey

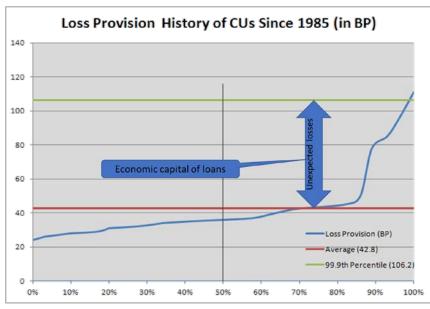


# **Economic Capital**

• The apogee iQ system performs simulation calculations of economic capital

### Probability Distribution of Potential Losses





# Risk-Adjusted Capital Adequacy

Compare capital remaining after a severe event to a minimum level

Adjust the loss percentile and minimum net worth level to consider your risk appetite

Percentile Loss Scenario	99.9th	99th	95th
"One in x years" event	1 in 1,000	1 in 100	1 in 20
Simulated losses	\$30,000,000	\$25,000,000	\$21,000,000
Less: ALLL (proxy for expected losses)	\$4,200,000	\$4,200,000	\$4,200,000
Near-worst-case unexpected losses	\$25,800,000	\$20,800,000	\$16,800,000
		<b>Economic Capit</b>	tal
Total net worth	\$90,000,000	\$90,000,000	\$90,000,000
Less: Near-worst-case unexpected losses	\$25,800,000	\$20,800,000	\$16,800,000
Adjusted total net worth	\$64,200,000	\$69,200,000	\$73,200,000
	÷	÷	÷
Total assets	\$1,000,000,000	\$1,000,000,000	\$1,000,000,000
Adjusted total net worth to total assets ratio	6.42%	6.92%	7.32%
	-	-	-
NCUA well-capitalized level (min net worth)	7.00%	7.00%	7.00%
Risk-adjusted "cushion" (%)	-0.58%	-0.08%	0.32%
Risk-adjusted "cushion" (\$)	-\$5,800,000	-\$800,000	\$3,200,000